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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,020	01/29/2002	Guillaume Belrose	1509-262	2666

7590 08/11/2005

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EXAMINER	
ALBERTALLI, BRIAN LOUIS	
ART UNIT	**PAPER NUMBER**
2655	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/058,020	BELROSE, GUILLAUME	
	Examiner	Art Unit	
	Brian L. Albertalli	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24,26-28,30-38 and 40-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24,26-28,30-38 and 40-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendments to the claims have been entered. Claims 1-3, 5, 7, 8, 11-22, 24, 28, 30-36, 38, 40, and 42 are currently amended, claims 25, 29, 39, and 43 are currently canceled, and new claims 44-50 have been added.

Response to Arguments

2. Applicant's arguments filed June 14, 2005 have been fully considered but they are not persuasive.

The Applicant has argued that it would not have been obvious to one of ordinary skill in the art at the time of invention to combine Suzuki and Moore because changing dialect with position would be "totally confusing" (see Applicant's arguments, pages 22-24 and especially page 24, 3rd paragraph).

Moore, however, teaches that the system commands are associated with the neutral position (column 5, lines 59-65). The system commands are presented from that neutral position in a neutral dialect in order to provide a mechanical sounding voice which differs from the lively characters in the dialog (column 6, lines 6-14). While the applicant has argued that Moore does not teach *varying the dialect for a particular character*, this is not a requirement of the claims. The claims only require that the "at least one aspect" of the audio announcement be *position dependent*. While Moore may not teach changing the dialect when the Waiter character moves positions, Moore does teach that presenting a voice announcement at different positions with different

speaking styles, vocabularies and speaker voices provides a more exciting and interesting experience for the user (column 5, lines 43-46).

The Examiner maintains that, given the teachings of Moore that providing different voice announcements in different speaking styles, vocabularies, and speaker voices in different positions is more exciting and interesting for the user, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki so that the one aspect of Suzuki was one of speaker styles, vocabulary, and speaker voice.

Therefore the rejections made under 35 U.S.C. 103(a) in the previous Office Action are maintained.

3. Additionally, new grounds of rejection are made for claims 1-3, 5, 6, 11, 12, 14,15, 22, 23, 26, 27, 36, 37, 40, 41, 44, 46, 47, 49, and 50 under 35 U.S.C. 102(b) as being anticipated by Katiraie (U.S. Patent 5,347,273).

Claim Objections

4. The amendments to the claims overcome the objections made in the previous Office Action. The objections to the claims are withdrawn.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 6, 11, 12, 14,15, 22, 23, 26, 27, 36, 37, 40, 41, 44, 46, 47, 49, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Katiraie (U.S. Patent 5,347,273).

In regard to claim 1, Katiraie discloses a method of announcing to a user the presence of a real entity (obstacle) in a current environment of the user (the real world around the user and/or around the user's vehicle, column 2, lines 59-65), comprising announcing to the user the entity using an audio announcement (message) using an audio announcement that has a presentation character at least one aspect of which, other than or in addition to loudness, is set in dependence on the range distance between the user and the entity, the said at least one aspect being vocabulary.

An ultrasonic wave is bounced back off of an object in the detection field (column 3, lines 20-30). When an object is detected in a given detection field (see Fig. 3, each detection field defines a range distance between the user and the entity), a corresponding voice message will play (column 3, lines 31-47). Each message is different for each range field, and thus the vocabulary used in the audio announcement is set in dependence on the range distance.

In regard to claim 2, Katiraie discloses:

(a) determining the distance between the user and said entity (each detection field relates to a distance between the user and the entity, therefore detecting an object in the detection field determines the distance between the user and said entity, column 3, lines 11-15 and lines 31-47);

(b) selecting on the basis of the range distance determined in step (a) one announcement from multiple available announcements that have respective presentation characters differing from each other in said at least one aspect (vocabulary, see Fig. 4; the ultrasonic detectors are used to generate an address by address generator 4 that corresponds with the detection field in which an object is located, column 4, lines 57-60 and column 5, lines 24-28; each address is assigned to a message in voice synthesizer 9, column 5, lines 30-34);

(c) retrieving stored announcement data for the one announcement selected in step (b) (each message is programmed in advance, and thus inherently is retrieved from storage, column 3, lines 32-35);

(d) generating said audio announcement using the retrieved announcement data (an analog audio message corresponding to the address is then generated, column 3, lines 34-35).

Furthermore, with regard to claim 3, each range distance (detection field) is associated with a message, and each message has a corresponding "presentation character" (i.e. vocabulary), therefore the presentation character is selected from among multiple presentation characters on the basis of the range distance.

In regard to claim 5, Katiraie discloses said at least one aspect of presentation character is vocabulary (each address is assigned to a message in voice synthesizer 9, column 5, lines 30-34).

In regard to claim 6, Katiraie discloses the announcement is made when the range distance reaches any one of set trigger values (see Fig. 3), the announcement presentation character being dependent on the trigger value reached (column 3, lines 31-47).

In regard to claim 11, Katiraie discloses said current user environment is the current real-world environment of the user, and said entity is a real-world entity, the at least one aspect of the audio-announcement presentation character being set in dependence on the range distance between the user and the real-world entity itself (the object is a real-world object detected through ultrasonic waves and the detection fields are real world distances between the user and the objects, column 2, lines 59-65 and column 3, lines 11-15).

In regard to claim 12, Katiraie discloses the range distance between the user and the entity is determined by range-determining equipment at one of the entity, the user, and in the environment (see Fig. 1 and column 1, lines 42-46, and range determining elements 1, 2, 3, 5, and 6 in Fig. 4), the range distance being provided to selection equipment at one of the user, the entity, and in the environment (address generator 4,

column 4, lines 57-59), in order to determine the announcement presentation character to be used (each message is assigned to an address, column 5, lines 32-34).

In regard to claim 14, Katiraie discloses said audio announcement is made by announcement equipment at the user using announcement data retrieved from a data store at one of the entity, the user, and in the environment (Fig. 4, speaker 12, column 5, lines 34-35 and line 39).

In regard to claim 15, Katiraie discloses said audio announcement is made by announcement equipment in the environment using announcement data retrieved from a data store at one of the entity, the user, and in the environment (the speaker 12 is in the real-world environment of the user, and thus is "in the environment").

In regard to claims 22, 36, and 40, Katiraie discloses an apparatus (Fig. 4) for announcing to a user the presence of a real-world entity (object) in the user's current environment (the real-world environment of the user), the apparatus comprising:

storage means (voice synthesizer 9) for storing announcement data for multiple announcements that have respective presentation characteristics differing from each other in at least one aspect other than or in addition to loudness, said at least one aspect being vocabulary (different messages, each with their own respective vocabulary, are stored in voice synthesizer 9, column 5, lines 30-34);

means for determining a range distance between the user and said entity (ultrasonic waves, column 3, lines 20-22 and lines 8-15);

means for selecting, on the basis of the determined range distance, one announcement from said multiple announcements (the ultrasonic detectors are used to generate an address by address generator 4 that corresponds with the detection field in which an object is located, column 4, lines 57-60 and column 5, lines 24-28; each address is assigned to a message in voice synthesizer 9, column 5, lines 30-34);

means for retrieving, from said storage means, the announcement data for the selected announcement (each message is programmed in advance, and thus inherently is retrieved from storage, column 3, lines 32-35);

means for generating an audio announcement using the retrieved announcement data (an analog audio message corresponding to the address is then generated, column 3, lines 34-35).

Furthermore, with regard to claims 26 and 40, each range distance (detection field) is associated with a message, and each message has a corresponding "presentation character" (i.e. vocabulary), therefore the presentation character is selected from among multiple presentation characters on the basis of the range distance.

In regard to claims 23, 27, 37, and 41, Katiraie discloses the announcement is made when the range distance reaches any one of set trigger values (see Fig. 3), the

announcement presentation character being dependent on the trigger value reached (column 3, lines 31-47).

In regard to claims 44, 46, 47, 49, and 50, Katiraie discloses the presentation character is set in dependence on range in a consistent matter so a user can rely on the association between range and presentation character being fixed (each detection field and corresponding range distance is associated with a particular message, column 3, lines 31-47 and column 5, lines 32-35).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8, 16, 19-21, 30, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. Patent 5,736,982) in view of Moore et al. (U.S. Patent 5,561,736).

In regard to claims 1 and 5, Suzuki et al. disclose a method of announcing to a user the presence of a real or virtual entity, or a representation of it (avatar), in a current environment of the user (virtual space), wherein the entity or its representation is announced to the user using an audio announcement that has a presentation character at least one aspect of which, other than or additional to its loudness, is set in

dependence on the range distance between the user and the entity, or its representation, in the current environment (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;
- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);
- speaker voice (column 5, lines 23-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to vary the speaking style, vocabulary, and speaker voice according to the range distance, in order to make the announcements more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

In regard to claim 2, Suzuki et al. disclose:

(a) determining the range distance between the user (avatar Ai) and said entity (avatar Aj), or its representation, in the current environment (column 10, lines 22-26); and

(b) modifying the presentation character of an announcement on the basis of the range distance determined in step (a) (column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose:

(b) selecting one announcement from multiple available announcements;

(c) retrieving stored announcement data for the announcement selected in step (b); or

(d) using the retrieved announcement data to generate said audio announcement

Moore et al. disclose a method for presenting announcements of entities in the environment of the user. The method comprises:

(b) selecting one announcement from multiple available announcements (Fig. 4, text strings 100-138) that have respective presentation characters differing from each other in said at least one aspect (different voices and dialects) and are associated with a range distance (the positions are a particular 3-dimensional coordinate, therefore each position has an associated range distance from the user, column 5, lines 46-56 and column 5, line 66 to column 6, line 1);

(c) retrieving stored announcement data for the announcement selected in step (b) (text string is retrieved, column 7, lines 8-9);

(d) using the retrieved announcement data to generate said audio announcement (the text string is synthesized into speech, column 7, lines 47-49).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to select an audio announcement from a plurality of audio announcements with different characteristics on the basis of a range distance determination, since presenting announcements in a variety of voices from different ranges is much more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

In regard to claim 3, Suzuki et al. disclose:

(a) determining the range distance between the user (avatar Ai) and said entity (avatar Aj), or its representation, in the current environment (column 10, lines 22-26);

(b) selecting, on the basis of the range distance determined in step (a), one presentation character from multiple available presentation characters that differ from each other in said at least one aspect (speech data between the avatars is captured and presented at different bit rates depending on the distance between the avatars, column 19, lines 12-24 and lines 46-52);

(c) generating said audio announcement such as to impart to it the presentation character selected in step (b) (the bit rate and speech quality of the speech varies depending on the distance, column 19, lines 46-52).

Suzuki et al. do not disclose retrieving a stored announcement.

Moore et al. disclose a method for storing announcement data associated with a position location (column 5, lines 46-56 and column 5, line 66 to column 6, line 1).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system.

In regard to claim 4, neither Suzuki et al. nor Moore et al. disclose making a component personalized to the user.

Official notice is taken that it is notoriously well known and recognized in the art to personalize the presentation of announcements so that the user feels more enrolled with the system. Especially in speech applications, this makes the user feel more comfortable with using the system.

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to personalize the announcements to the user in order to make the user feel more enrolled.

In regard to claim 6, Suzuki et al. disclose the announcement is made when the range distance reaches any one of a set of trigger values, the announcement presentation being dependent on the trigger value reached (the announcements are

dependent on trigger values D1, D2, D3, and D4, and no announcement is made when the distance is greater than a distance D, column 10, lines 22-34 and column 19, lines 12-24).

In regard to claim 7, neither Suzuki et al. nor Moore et al. disclose that the announcement is made at periodic intervals.

Official notice is taken that it is notoriously well known and recognized in the art that in an audio user interface, users have trouble remembering where items are located in the audio space. This is because every item in an audio interface must be presented linearly. That is, unlike a visual user interface, where a large number items can concurrently be presented to the user, presenting more than a few items at one time in an audio interface overwhelms the user. So, once an entity is announced, the user must remember where that entity is located. To overcome this limitation, it has been long well known to repeat the announcements of entities at periodic intervals, so that the user is periodically reminded where the entity is in the audio user interface.

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to make an announcement at periodic intervals, so the user would be periodically reminded where the entity was in the audio user interface and the user would not forget that entity.

In regard to claim 8, Suzuki et al. disclose said current user environment is an audio field (virtual audio space) in which items are represented by corresponding synthesized sound sources from where sounds related to the items appear to emanate (column 18, lines 35-39), one such item constituting said entity with the corresponding sound source forming a said representation of the entity in the audio field (avatar), and the audio announcement having a presentation character the said at least one aspect of which is dependent on the range distance between the user and the location in the audio field of the sound source representing said entity (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

In regard to claims 16, 21, 30, and 35, Suzuki et al. disclose an apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate (column 18, lines 35-39), the apparatus comprising:

rendering-position determining means for determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field (position coordinates, column 9, lines 28-43);

rendering means, including audio output devices, for generating an audio field in which said sound sources are synthesized at their associated rendering positions, the audio output devices being such as to permit the user also to hear real-world sounds

from the environment (Fig. 3, audio is output through speaker SP, which would allow the user to hear real-world sounds, see also column 18, lines 35-39); and

announcement-control means for causing at least one said item to be announced to the user, via the corresponding sound source, using an audio announcement that has a presentation character at least one aspect of which, other than or additional to its loudness, is set in dependence on a range distance between the user and the location of the sound source in the audio field (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;
- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);
- speaker voice (column 5, lines 23-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to vary the speaking style, vocabulary, and speaker

voice according to the range distance, in order to make the announcements more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

In regard to claims 19 and 33, Suzuki et al. disclose rendering means operative to produce an announcement at the determined rendering position of the corresponding sound source that alters the character of the announcement according to the determined position (column 18, lines 35-39, column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose a data store or that the announcement-control means is operative to select, for each said at least one item to be announced to the user, the appropriate announcement data for the said range distance concerned.

Moore et al. disclose:

a data store (Fig. 4, text strings 100-138) for holding, for each said at least one item to be announced to the user, announcement data for multiple announcements that have respective presentation characters differing from each other in said at least one aspect (different voices and dialects, column 5, lines 46-48);

an announcement-control means being operative to select, for each said at least one item to be announced to the user, the appropriate announcement data for the said range distance concerned (the positions are a particular 3-dimensional coordinate, therefore each position has an associated range distance from the user, column 5, lines 46-56 and column 5, line 66 to column 6, line 1);

a rendering means being operative to use the selected announcement data to produce an announcement at the determined rendering position of the corresponding

sound source (the text string is synthesized into speech at the spatial location, column 7, lines 47-49 and lines 55-60).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to select an audio announcement from a plurality of audio announcements with different characteristics on the basis of a range distance determination, since presenting announcements in a variety of voices from different ranges is much more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

In regard to claims 20 and 34, Suzuki et al. disclose:

means for applying to an announcement a selected one of multiple different presentation characters that differ from each other in said at least one aspect (different bit rates, column 19, lines 12-24);

the announcement-control means being operative to select, for each said at least one item to be announced to the user, the appropriate presentation character which it then applies to the corresponding announcement data such as to cause the rendering means to produce an announcement with the selected presentation character at the determined rendering position of the corresponding sound source (speech data between the avatars is captured and presented at different bit rates depending on the distance between the avatars and rendered at the determined rendering position, column 18, lines 35-39, column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose the announcement-control means includes a data store for holding announcement data for each said at least one item to be announced to the user.

Moore et al. disclose an announcement-control means includes a data store for holding announcement data for each said at least one item to be announced to the user (column 5, lines 46-56 and column 5, line 66 to column 6, line 1).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system.

8. Claims 9-15, 17-18, 22-29, 31-32, and 36-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., in view of Moore et al., and further in view of Richards (U.S. Patent Application Publication 2001/0056574).

In regard to claims 9 and 10, Suzuki et al. disclose a sound source representing the entity being positioned in the audio field at a range distance value from the user dependent on the distance between the user and the location of the entity (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

Suzuki et al. and Moore et al. do not disclose the entity is a real world entity or an augmented reality service.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 11 and 12, Suzuki et al. disclose at least one aspect of the audio-announcement presentation character being set in dependence on the range distance between the user and the entity, wherein the range distance between the user and the entity is determined by range-determining equipment in the environment, the range distance being provided to selection equipment generally in the environment (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52; the distance is determined by terminals generally in the environment, column 4, lines 18-22).

Suzuki et al. and Moore et al. do not disclose that the current user environment is the real-world environment of the user and the entity is a real world entity.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56). Augmented reality is a real world environment.

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 13-15, Suzuki et al. do not disclose said audio announcement is made by announcement equipment at the entity, the user, and generally in the environment, using announcement data retrieved from a data store at one of one of the entity, the user, and generally in the environment.

Moore et al. disclose a data store for storing announcements generally in the environment (in personal computer 10, see Fig. 1 and column 5, lines 46-48).

It would have been obvious to one of ordinary skill in the art at the time of invention to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system.

Neither Suzuki et al. nor Moore et al. disclose a real world environment wherein said audio announcement is made by announcement equipment at the entity, the user, and generally in the environment.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56). Augmented reality is a real world environment. The announcements are made at the user (through headphones) or generally in the environment (see Fig. 7 and page 2, 1st column, last line to 2nd column line 5).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to present the announcements at the user, because this would prevent the need for an expensive, multi-speaker installment. It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to present the announcements generally in the environment, so the user would not have to wear headphones, thereby reducing the amount of equipment that the user needed to carry.

While none of Suzuki et al., Moore et al. and Richards specifically disclose making announcements with equipment at the entity, Richards does disclose that adding real world markers to the entities reduces the amount of video processing (retroflective targets are added to the real world entities, page 5, paragraph 57, lines 9-14).

Official notice is taken that it is notoriously well known and recognized in the art that a large amount of processing is required to convincingly present an audio entity wherein the sounds appear to emanate from the entity's position in a spatialized audio system (such as through headphones or generally in the environment).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al., Moore et al. and Richards to make announcements with equipment at the entity, in order to reduce the processing needed to make the announcement appear to emanate from the entity's position.

In regard to claims 17, 18, 31, and 32, Suzuki et al. disclose at least one aspect of the audio-announcement presentation character being set in dependence on the range distance between the user and the entity, wherein the range distance between the user and the entity is determined by range-determining equipment in the environment, the range distance being provided to selection equipment generally in the environment (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52; the distance is determined by terminals generally in the environment, column 4, lines 18-22). Suzuki et al. further disclose rendering-position determining means for determining, for each said sound source, an associated rendering position at

which the sound source is to be synthesized to sound in the audio field (position coordinates, column 9, lines 28-43).

Suzuki et al. and Moore et al. do not disclose the entity is a real world entity or an augmented reality service.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 22 and 36, Suzuki et al. disclose and apparatus for announcing to a user the presence of an entity in the user's current environment, the apparatus comprising:

means for determining a range distance between the user and said entity (column 10, lines 22-26);

modifying the presentation character of an announcement on the basis of the range distance determined in step (a) (column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;

- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);
- speaker voice (column 5, lines 23-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to vary the speaking style, vocabulary, and speaker voice according to the range distance, in order to make the announcements more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

Suzuki et.al. further do not disclose:

storage means for storing announcement data for multiple announcements that have respective presentation characters differing from each other in at least one aspect other than, or additional to, loudness;

means for selecting, on the basis of the determined range distance one announcement from said multiple announcements;

means for retrieving, from said storage means, the announcement data for the selected announcement; and

means for generating an audio announcement using the retrieved announcement data.

Moore et al. disclose :

storage means for storing announcement data for multiple announcements that have respective presentation characters differing from each other in at least one aspect other than, or additional to, loudness (different voices and dialects, column 5, lines 46-48);

means for selecting, on the basis of the determined range distance one announcement from said multiple announcements (the positions are a particular 3-dimensional coordinate, therefore each position has an associated range distance from the user, column 5, lines 46-56 and column 5, line 66 to column 6, line 1);

means for retrieving, from said storage means, the announcement data for the selected announcement (text string is retrieved, column 7, lines 8-9); and

means for generating an audio announcement using the retrieved announcement data (the text string is synthesized into speech, column 7, lines 47-49).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to select an audio announcement from a plurality of audio announcements with different characteristics on the basis of a range distance determination, since presenting announcements in a variety of voices from different ranges is much more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

Neither Suzuki et al. nor Moore et al. disclose the entity is a real world entity.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 23 and 37, Suzuki et al. disclose the announcement is arranged to be made when the range distance reaches any one of a set of trigger values, the announcement presentation character being dependent on the trigger value reached (the announcements are dependent on trigger values D1, D2, D3, and D4, and no announcement is made when the distance is greater than a distance D, column 10, lines 22-34 and column 19, lines 12-24).

In regard to claims 24 and 38, Suzuki et al., Moore et al., and Richards do not disclose that the announcement is made at periodic intervals.

Official notice is taken that it is notoriously well known and recognized in the art that in an audio user interface, users have trouble remembering where items are located in the audio space. This is because every item in an audio interface must be presented linearly. That is, unlike a visual user interface, where a large number items

can concurrently be presented to the user, presenting more than a few items at one time in an audio interface overwhelms the user. So, once an entity is announced, the user must remember where that entity is located. To overcome this limitation, it has been long well known to repeat the announcements of entities at periodic intervals, so that the user is periodically reminded where the entity is in the audio user interface.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to make an announcement at periodic intervals, so the user would be periodically reminded where the entity was in the audio user interface and the user would not forget that entity.

In regard to claims 26 and 40, Suzuki et al. disclose an apparatus for announcing to a user the presence of a real-world entity in the user's current environment, the apparatus comprising:

means for determining a range distance between the user and said entity (column 10, lines 22-26);

means for selecting, on the basis of the determined range distance, one presentation character from multiple available presentation characters that differ from each other in at least one aspect other than, or additional to, loudness (;

means for retrieving the announcement data from the storage means; and

means for generating an audio announcement using the retrieved announcement

Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;

- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);
- speaker voice (column 5, lines 23-58).

Suzuki et al. further do not disclose:

means for storing announcement data; and

means for retrieving the announcement data from the storage means.

Moore et al. disclose :

means for storing announcement data (text strings, column 5, lines 46-48);

means for retrieving the announcement data from the storage means (text string is retrieved, column 7, lines 8-9); and

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system,

Neither Suzuki et al. nor Moore et al. disclose the entity is a real world entity.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 27 and 41, Suzuki et al. disclose the announcement is arranged to be made when the range distance reaches any one of a set of trigger values, the announcement presentation character being dependent on the trigger value reached (the announcements are dependent on trigger values D1, D2, D3, and D4, and no announcement is made when the distance is greater than a distance D, column 10, lines 22-34 and column 19, lines 12-24).

In regard to claims 28 and 42, Suzuki et al., Moore et al., and Richards do not disclose that the announcement is made at periodic intervals.

Official notice is taken that it is notoriously well known and recognized in the art that in an audio user interface, users have trouble remembering where items are located in the audio space. This is because every item in an audio interface must be presented linearly. That is, unlike a visual user interface, where a large number items

can concurrently be presented to the user, presenting more than a few items at one time in an audio interface overwhelms the user. So, once an entity is announced, the user must remember where that entity is located. To overcome this limitation, it has been long well known to repeat the announcements of entities at periodic intervals, so that the user is periodically reminded where the entity is in the audio user interface.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to make an announcement at periodic intervals, so the user would be periodically reminded where the entity was in the audio user interface and the user would not forget that entity.

9. Claims 45 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., in view of Moore, et al., and further in view of Katiraie.

Nether Suzuki et al. nor Moore et al. disclose the presentation character is set in dependence on range in a consistent matter so a user can rely on the association between range and presentation character being fixed.

Katiraie discloses a system for announcing to the user the presence of an entity wherein the presentation character is set in dependence on range in a consistent matter so a user can rely on the association between range and presentation character being fixed (each detection field and corresponding range distance is associated with a particular message, column 3, lines 31-47 and column 5, lines 32-35). This allows the user to determine the distance between the user and the entity (obstacle, column 3, lines 11-15).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to set a presentation character in a consistent manner, in order to allow the user to determine the distance between the user and the entity, as taught by Katiraie (column 3, lines 11-15). This would be especially advantageous in the case where loudness was not set in dependence on a range distance, as the user would have no other means for determining the range of the entity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Albertalli whose telephone number is (571) 272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 7/27/05

W. R. YOUNG
PRIMARY EXAMINER